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ABSTRACT

The role of higher education in society has changed dramatically in recent years and is likely to continue to change. There will be an increased need for more learning for more people for more years of their lives. There will also be an increase in the number and types of organizations providing education and the development of a worldwide perspective on lifelong learning. Among the ways in which the role of colleges and universities is changing under the impact of the "learning society" are: (1) higher education no longer enjoys a monopoly on the provision of educational services; (2) the roles of educational providers are increasingly blurred, e.g., the distinctions between education and training and between credit and non-credit courses are difficult to maintain; (3) higher education no longer has the full-time commitment of students or of faculty; (4) learning has become a lifelong necessity for almost everyone since there is a constant need for upgrading of skills and knowledge; and (5) a major revolution involving the creation, processing, and distribution of information is taking place in society. These changes will necessitate sharing and cooperation in education; will increase competition among providers of credentials; and will require acceptance of learning as a lifelong process. If educators can adapt to these changes they will have more control over the type and directions of change. (HB)

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COOPERATION AND COMPETITION IN THE LEARNING SCCIETY

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Any sensitive observer of the educational scene can, over a period of years, observe the swinging of the pendulum. Collectively we in education swing from energetic growth of campuses, buildings, and enrollments to equally energetic retrenchment, from campus protest to campus apathy, from educational arrogance to educational self-doubt, from unreserved open admissions to rigorous entrance requirements, from long-range planning to strategic manage-

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ment. I suppose the wide swings of mood and emphasis that seem to characterize education can be interpreted as the product of high energy and enthusiasm, but on the other hand, psychologists interpret wide mood swings as symptoms of manic-depressive psychosis. The 1980s seem about as depressive as the 1960s were manic. More moderate swings of the pendulum might conserve considerable energy, both in creating the excesses in the first place and correcting them later.

But as I look to the future, I don't see moderation. I see states as well as institutions correcting for the excesses of the single minded goal of access for all in the 1960s and 70s with an equally single-minded concern about raising "standards" through erecting multiple barriers as to who may attend college in the 1980s. I see the overexpansion of higher education corrected by an obsession with retrenchment. And so we go right ahead creating various kinds of excesses in the 1980s to be corrected in the 1990s. The excess that looks great to us right now is the bandwagon of interstate competition that is rolling to establish the educational system that will best support the "high tech" economy that seems to be in every state's dream of the future.

As welcome as this new surge of interest in education is, I worry that education is once again concentrating on a single issue to the exclusion of other considerations of equal importance to society. The perspective that I think is missing in the current single-minded rush to recover lost standards is

attention to the world that is growing up outside of higher education. Much of that world is related to the new technologies that are moving us into the Third Wave and to the development of human capital through lifelong learning. But the undertow of the Third Wave is the changing role of higher education in the society. It is that undertow that I wish to discuss today.

We have all heard it said that the railroads failed, not because there was no longer a need for their services -- indeed the need for transportation was growing at the time -- but because the tunnel vision of the railroad operators concentrated on running the railroad instead of exploring the new frontier of the transportation industry. There is a danger that in the new enthusiasm for developing managers who can "run the college," we will fail to develop <u>leaders</u> who see the new frontiers of the education industry.

If we looked to the broad future of the education industry rather than to the narrow future of individual colleges, what would we see?

First, we would see a greatly increased need for learning, for more people and for more years of their lives. Second, we would see a wider range of offerings and an explosive increase in the number of organizations providing education. Third, we would see a new worldwide perspective on lifelong learning.

Let me set forth six propositions to make concrete my basic thesis that the role of colleges and universities is changing dramatically and permanently under the impact of the Learning Society.

Proposition One. Proposition One is that higher education no longer enjoys a monopoly on the provision of educational services. In yesteryear when college students were typically late adolescents whose primary occupation was going to school, if they were engaged in education at all, it was full-time at a college. Colleges sometimes competed with one another for students, but students didn't have a lot of other learning options.

Today adults who enroll in college classes, whether for credit or not, voluntarily choose that option from a large number of possible alternatives, including courses offered by employers, labor unions, professional associations, community organizations, television, and a host of other providers. Higher education today provides a little over a third of the organized learning opportunities for adults; the remaining two-thirds is provided by a vast array of schools and non-collegiate providers, many of whom offer

everything colleges do and more. They may offer credit, degrees, education leading to promotion, licensure, personal fulfillment, intellectual stimulation, practical skills. You name it and you may be sure someone offers it. Industry, for example, spends not mere millions but billions of dollars annually on the education and training of employees. Business currently allocates more money for education and training than all fifty states combined allocate for higher education (Lynton, 1982). Aetna, Xerox, IBM, and other corporate giants have built campuses with classrooms and residence halls that surpass anything offered in our most exclusive and expensive colleges. Professional associations too are becoming the builders of vast educational networks. The American Management Association conducts 3200 programs annually, and enrolls 100,000 learners, but even they have no corner on the market for business education. It is estimated that 3000 different providers, many of them private entrepreneurs, conduct some 40,000 public business seminars each year. Thus Proposition One states that higher education faces unaccustomed competition from other providers of education in the society.

Proposition Two is related to Proposition One. It states that the roles of educational providers, once reasonably distinct, are increasingly blurred. It is no longer clear what courses merit credit, who may offer it, or who needs it. Academic purists like to make a distinction between the education

offered by colleges and the training offered by industry, but such distinctions are difficult to maintain. Non-collegiate organizations have moved into education almost as fast as colleges, especially community colleges, have moved into training, and the distinction is now blurred beyond usefulness -- at least when applied to providers. Colleges are heavily involved in training as well as in education, and the programs of many corporations contain as much emphasis on theory, research, and personal development as those of any college of business. Listen, for example, to this description of IBM's Systems Research Institute:

> The Institute's educational philosophy is in many ways that of a university. It stresses fundamental and conceptual education and allows students to choose those courses that will best nurture their own development. The intent is to stimulate and challenge, to teach the theoretical and the practical, to discuss and argue differing viewpoints, to broaden the individual, focusing on his or her special skills (IBM Systems, 1981, p. 6).

Contrast that broad educational philosophy with this course description taken from a college catalogue. The course is called Airline Reservations and carries three academic credits. The description reads as follows:

> Prepares students for airline employment opportunities through a familiarization of the procedures involved in airline reservations, the use of official airline guides, and airline route structures.

If one were given a blind sample of course descriptions today,

it would be hard to tell whether they came from industry, colleges, museums, labor unions, or professional associations.

A related blurring of educational functions occurs in the distinction between credit and non-credit learning. Within higher education we have certainly muddied the waters by some shifting of non-credit, non-funded courses to the credit, funded side of the ledger. Outside of higher education, non-colleges are beginning to offer not only fully legitimate credit courses, but full-scale degree programs. In the Boston area alone there are four new degree-granting programs, founded by non-colleges -- a hospital, a bank, a consulting firm, and a computer manufacturer. While the image of Bachelor's and Master's degrees offered by these non-colleges is still mildly sensational, the movement of collegiate institutions into the realm of non-credit instruction is now commonplace. Between 1968 and 1978 more than a thousand colleges introduced non-credit programs on -- or more likely off -- their campuses. Today is is the norm rather than the exception for degree-granting colleges to be involved in non-degree instruction.

But whether a course was originally taken for credit is not especially important today. It is increasingly easy to convert non-credit learning into college degrees. Just a decade ago only about a third of American colleges granted credit if students

could demonstrate on standardized examinations that they knew the material; today 84 percent of all colleges grant credit by examination. Ten years ago, only 14 percent of the colleges would consider granting credit for experiential learning; today 41 percent do (Stadtman, 1980).

Historically, colleges have reasonably generous in accepting credit from other colleges; today they are increasingly likely to endorse learning regardless of its source. The American Council on Education's Office of Education Credit lists over 2000 courses offered by more than 180 corporations, that appear worthy of college credit.

Illustrations of the blurring of once distinctive functions for higher education could be extended, but my point is that the education frontier is very large, and higher education is not alone out there. Thus Proposition Two states that the roles of the various educational providers in the Learning Society are far from clear, and that blurring of functions rather than distinctiveness seems to be the trend.

Proposition Three states that higher education no longer has the full-time commitment of students -- or for that matter of faculty. In the past decade, the proportion of part-time students enrolled for college credit has gone from 32 percent to 42 percent, and 52 percent seems likely before the end of the decade. We used to think that the growth of part-time students was primarily

a community college phenomenon because part-timers now make up more than two-thirds of the community college enrollments, but part-time students between the ages of 25 and 34 are now growing twice as fast in four-year institutions as they are in community colleges. Thus the rise of the part-time learner seems a universal phenomenon for all providers of educational services.

While faculty of an earlier era may have complained that students were not giving undivided attention to their studies, traditional students were at least in the college environment twenty-four hours a day. They lived in an unreal "city of youth," and their full-time occupation was with the social and intellectual demands of college. Formal education is now changing from a full-time commitment for four years of a student's life to a part time commitment for forty years. The first priority of the adult learner of today is not college, but job, family, and an array of other adult responsibilities that serve as enhancers, detractors, and sometimes inhibitors of education. Thus Proposition Three states that higher education faces unaccustomed competition for the time and attention of students. Education cannot do whatever suits institutional convenience and assume that students can and will go along with it.

Proposition Four states that learning has become a lifelong necessity for almost everyone. There are very few jobs left in this world that are immune from the necessity for retraining

and constant upgrading of skills and knowledge. The development of human capital is now recognized as a fundamental and necessary component of progress in this era of technological change and international competition. In today's climate, the widening gap between the skills available in the work force and the skills needed for economic productivity is nothing short of alarming. While the want ads burgeon with appeals for technically competent personnel and employers offer bounties for employees with the basic skills necessary for learning new tasks, thousands of unemployed provide tragic testimony to the gap between supply and demand for educated workers.

Lifelong education for jobs is the most visible symptom of social change. But in that change, from full time education for a few years to part time education for a lifetime, lie changes for curriculum, instruction, delivery systems, and lifestyles. So far in the history of industrialized nations, there has been a pronounced tendency to increase the separation between education, work, and leisure. The result has been termed the "linear lifeplan" in which education is for the young, work for the middle-aged, and leisure for the elderly. But a study of the progression and influence of the linear lifeplan in the United States warns that "There can be little doubt that many of our most serious and persistent problems stem from the ways in which education, work, and leisure are distributed throughout lifetimes" (Best and Stern,

1976, p. 24). The major social problem is unemployment. Although that problem is especially critical right now, it is not new. For the past fifty years, society has been unable to provide jobs during peacetime for everyone willing and able to work. A blended lifeplan (Cross, 1981) in which education, work, and leisure are concurrent throughout the lifespan can address not only the urgent demands for lifelong education for the workforce, but it can also address personal and societal problems that are arising for youth, the elderly, two-career families, and mid-career executives. There are increasing demands from a variety of people for greater balance in their lives -- more job-sharing, more part-time educational arrangements, more leisure (Cross, 1981).

Proposition Five is almost proposition 4½, but the distinction between lifelong learning and adult education deserves its own space. We in the United States tend to equate lifelong learning with adult education. In Europe, and especially in the publications of UNESCO, they make quite clear that lifelong learning begins at birth and ends at death. The official UNESCO definition is that,

> The term 'lifelong education and learning' denotes an overall scheme aimed both at restructuring the existing education system and at developing the entire educational potential outside the education system; in such a scheme men and women are the agents of their own education.

That definition contains among other things, a basic challenge to colleges working primarily with so-called traditional students. Alvin Toffler, futurist author of The Third Wave, claims that "the reasons schools are in deep trouble today is that they no longer simulate the future, they simulate the past" (Toffler, 1981). Schools devised for the factory world emphasized virtues such as obedience, punctuality, and the willingness to do rote work because those were the demands of the Second Wave workforce. Despite the arrival of the Third Wave, schools still simulate the standardized work patterns of the factory. Everyone arrives for class and departs at a common time; students move on to the next lesson en masse, whether they have learned the material or not, and there is still an emphasis on absorbing information, despite the futility of that mode of education in the era of the knowledge explosion.

The knowledge explosion is just that. There is no way to keep up with the explosion of new knowledge. It is created faster than it can be learned or taught. Between 6000 and 7000 scientific articles are written each day, and information doubles every 5.5 years. The problem for the future is not the supply of information, but the selection. People need to know how to select appropriate information from an overwhelming array available, and they need to know how to use it in conceptual thinking. We're talking about something far more basic to education than technical

and scientific training. We're talking about the need for broadly educated people with the skills that will serve as the foundation for a lifetime of learning. That calls for fewer information-laden lectures and more active analysis, synthesis, and application of knowledge on the part of students. Teachers who see their role as providers of information can and will be replaced by machines. Teachers who nurture, inspire, and assist in cognitive growth and intellectual development cannot be replaced by machines. They are our greatest resource in the development of human capital.

Proposition Six comes full circle. It concludes that education will play new roles in the society of the future. There is widespread agreement now that we are facing a major revolution in society. It has been called The Third Wave, the Information Society, and the Technological Revolution. Whatever its nomenclature, the direction seems clear. Jobs, the economy, and lifestyles will be based on the creation and distribution of information. In 1950, only 17 percent of the jobs in America involved the processing of information; today more than 60 percent of all workers are creating, processing, or distributing information. Taking note of such changes, the Office of Technology Assessment of the United States Congress concluded that "The so-called information revolution, driven by rapid advances in communications and computer technology, is profoundly affecting

American education. It is changing the nature of what needs to be learned, who needs to learn it, who will provide it, and how it will be provided and paid for" (OTA, 1982, p. iii).

The colleges and universities that are at the forefront of these changes tend to be those that are by the nature of their curriculum or mission closest to the changes taking place. The Department o Electrical Engineering and Computer Science at M.I.T., on the occasion of their hundredth anniversary, issued a report called Lifelong Cooperative Education (M.I.T., 1982). The title is significant; it suggests that the future of engineering education should be continuous throughout the working life of the engineer and that it will be provided by industry and education working in partnership. The report rejects the notion that a few years of formal education can provide an adequate foundation for half a century of professional work. They note that in engineering it is more than a question of keeping up with new developments. Recent technological developments have not even been based on the same scientific and mathematical knowledge that provided the foundation for earlier models. Thus engineers who have been out of school for more than a few years face the probability that the very foundations of their knowledge are obsolete. Professor Louis Smullin of M.I.T. was quoted in a recent issue of Time Magazine (October 18, 1982, p. 100) saying that engineers "are washed-up by the time they are thirty-five or forty, and new ones are recruited from

the universities." But as the M.I.T. report observes, the demand of the 1980s cannot be met by replacing "obsolescent" engineers with new graduates, even if that were a humanly acceptable plan. Thus they conclude that, "The only apparent alternative is better utilization of the presently available engineering workforce through continuing education at the workplace, with the active encouragement and support of employers" (M.I.T., 1982, p.6). To the Centennial Study Committee, lifelong cooperative education is essential for three reasons:

1. Universities acting alone have neither the human nor the financial resources to carry out a lifelong educational program on the scale required. . . .

2. Engineering faculties cannot by themselves keep up with the knowledge explosion. Close collaboration between engineering faculties and their industrial colleagues is essential if new knowledge is to be distilled from the literature and widely disseminated at the rate at which it is being generated.

3. Engineers in industry and their university colleagues need a supportive environment in which they can teach and learn from one another. A concerted effort will be required to bridge the many gaps -- organizational, social, and temporal -- that now separate 'work' and 'study' (M.I.T., 1982, p. 6-7).

Although these recommendations for radical change in education come from an educationally conservative engineering school, they are a precursor of things to come across the wide variety of educational institutions. Community colleges, with a tradition of working closely with employers, are at the forefront of the new cooperative efforts between education and industry. In

1981, more than 40 percent of the community colleges in the nation had formal cooperative agreements with employers -- up from 20 percent just five years earlier (Young, 1981).

Thus Proposition Six asserts that the providers, the organization, and the role of education in the society is changing.

These six propositions taken together will, I believe, affect education profoundly. I should like, in just a few minutes, to open for discussion the questions that I raised in these remarks about cooperation, competition, and autonomy in the Learning Society. But first let me summarize briefly the major points I have tried to make about where we will be cooperating, where we will be in competition with other providers, and where we will be trying to establish autonomous responsibilities.

First, I believe that sharing and cooperation will be the major outcomes of the changing role of education in the society. Certainly we will be sharing students, teachers, and equipment with industry in the high technology that lies in our future. M.I.T. has already pointed to the necessity for forming partnerships where it will be impossible and in any case undesirable to try to support full-time faculty in computer science and engineering. Everyone stands to benefit from sharing expertise, students, and resources.

Second, we will be sharing students with other demands on their time. Their involvement in the world beyond the Ivy will carry colleges and universities of all types into more intimate involvement

and cooperation with local as well as world-wide communities. Community colleges, for the most part, have already made this adjustment, but there are some in the community college movement who would like to pull back from what they perceive to be an over-extended commitment to the community to concentrate on the academic mission of colleges and the preparation of community college students for transfer to upper divisions. This would represent an autonomous academic role for colleges, but I see no signs that higher education can divorce itself from close relationships with high schools, community agencies, employers, and the world in which our students live.

Rather the autonomy that I see for education lies in preparing students to become efficient and effective lifelong learners. The ultimate responsibility for teaching the academic skills that become the basis for all future learning belongs to schools and colleges. I refer here not just to reading, writing, and arithmetic, but to the ability to think analytically, to synthesize information from different sources, and to communicate conclusions on courses of action. Schools and colleges also have responsibilities in the preservation and enhancement of our human heritage. As lifelong learning becomes the norm, these responsibilities will be shared with libraries, museums, orchestras, theaters, and the other cultural organizations of our society that add to the quality of life.

Finally, I believe that competition will increase among providers

for the award of credentials. The awarding of credit and degrees used to be a monopoly for education. But as we have seen, other providers are offering degrees and credentials useful in the marketplace. I suspect, however, that the number of degrees generated by non-colleges will remain infinitesimally small relative to higher education. An increasingly common role for higher education is to serve as the middleman in the award of credentials as students convert learning done elsewhere into degree credit through the use of examinations, portfolio assessment of experiential learning, and courses offered by corporations and certified for credit by the American Council on Education or the New York PONCI Program (Program on Noncollegiate Instruction). Since credentials are used primarily for job mobility, workers and employers are free to short-circuit the middleman, but at the present time, the credibility of instruction in higher education appears to be meaningful to both students and employers, and almost all efforts to convert learning into credentials run through colleges and universities.

The threat of competition in the credentialing process is clearly present, however, and students taking the CLEP exams, which were designed to help adults gain college credit, are already using test scores directly to gain employment advantages. The same is true for the techniques of portfolio assessment and other mechanisms designed to convert learning done outside the classroom into college credits. If higher education should lose its credibility through lower standards or credit "give-aways," then I suspect that

higher education's role as the middleman in the credentialed society would give way to the direct assessment of competencies by employers.

In conclusion, the role of higher education in the society is likely to continue to change. We will have far more control over the type and direction of change if we plan for cooperation and competition than if we tend strictly to running our colleges while the Third Wave crashes about us.

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